

Claims

1. A hinge structure for a flat visual display device comprising:
a fixed plate;
5 pivotal plates;
a rotation shaft inserted into vertical planes of said fixed and pivotal plates
for allowing relative rotational movement;
rotation shaft-fixing ends in both ends of said rotation shaft for allowing said
pivotal plates fitted around said ends of the rotation shaft to rotate together with said
10 rotation shaft;
a braking unit securely settled in said fixed plate and having a braking
member for surrounding the outer circumference of said rotation shaft to generate
braking force in said rotation shaft;
stoppers folded from said fixed plate;
15 stopper guides each having a guide groove in the outer circumference into
which each of said stoppers is inserted and for being fitted around each of said
rotation shaft-fixing ends to restrict the pivoting angle of each of said pivotal plates;
and
a leaf spring inserted into a tightening face between both ends of said braking
20 member for assisting the gap of said tightening face to be conveniently adjusted in a
microscopic scale.
2. The hinge structure according to claim 1, further comprising anti-release
members respectively in the outer circumferences of said pivotal plates for preventing
25 release of said pivotal plates.
3. The hinge structure according to claim 1, wherein said rotation
shaft-fixing ends each are formed flat in at least one face in the circular outer
circumference of said rotation shaft.
- 30 4. The hinge structure according to claim 1, further comprising sliding
members provided in contact faces between said fixed plate and said stopper guides
for restricting noise and abrasion.

5 5. The hinge structure according to claim 1, further comprising sliding members each of which includes a shaft-receiving hole into which said rotation shaft is inserted from said fixed plate and a hole-sliding portion provided in a face of said each sliding member contacting with said rotation shaft for restricting noise and abrasion.

6. The hinge structure according to claim 1, wherein said braking unit comprises:
a braking member having a frictional face contacting with the outer
10 circumference of said rotation shaft and braking-tightening planes at both ends for adjusting braking force owing to said frictional face;
a braking-adjustable member inserted between said braking-tightening planes for adjusting braking ability; and
a tightening hole provided in a horizontal plane of said fixed plate for fixing
15 said braking-adjustable member.

7. The hinge structure according to claim 1, further comprising a braking housing for surrounding the outer circumference of said braking member for restricting fracture of said braking member.
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8. The hinge structure according to claim 1, wherein said leaf spring has a number of folded faces which are vertically folded.

9. The hinge structure according to claim 1, wherein said braking member
25 is made of engineering plastic.

10. A hinge structure for a flat visual display device comprising:
a fixed plate;
pivotal plates;
30 a rotation shaft inserted into vertical planes of said fixed and pivotal plates for allowing relative rotational movement;
rotation shaft-fixing ends in both ends of said rotation shaft for allowing said pivotal plates fitted around said ends of the rotation shaft to rotate together with said rotation shaft;

a braking member settled in said fixed plate for surrounding the outer circumference of said rotation shaft to generate braking force in said rotation shaft;

stoppers folded from said fixed plate;

5 stopper guides each having a guide groove in the outer circumference into which each of said stoppers is inserted and for being fitted around each of said rotation shaft-fixing ends to restrict the pivoting angle of each of said pivotal plates; and

10 a hinge-fixing unit having rotation shaft guides at both upper ends, said rotation shaft guides being placed in both ends of said rotation shaft for restricting shaking of said rotation shaft.

11. The hinge structure according to claim 10, further comprising elastic members each with both ends contacting with said fixed and pivotal plates and fitted around said rotation shaft for applying restoring force.

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12. The hinge structure according to claim 11, further comprising spacing members respectively in contact faces between said rotation shaft and said elastic members and fitted around said rotation shaft for preventing noise and abrasion of said contact faces.

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13. The hinge structure according to claim 10, wherein said braking member is made of engineering plastic.

14. A hinge structure for a flat visual display device comprising:
25 a braking member made of engineering plastic and provided in the outer circumference of a rotation shaft which is inserted into fixed and pivotal plates; and

elastic members with both ends placed in said pivotal and fixed plates and for generating restoring force to offset the weight of the flat visual display device so as to vertically adjust flat visual display device with a slight amount of force,

30 whereby the weight of the flat visual display device is supported and the vertical movement thereof is compensated.

15. The hinge structure according to claim 14, wherein said braking member has:

a frictional face contacting with said rotation shaft for providing braking force; and

braking-tightening planes extended from said frictional face to adjust braking force.

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16. The hinge structure according to claim 14, further comprising a braking housing around said braking member for maintaining the strength of said braking member.

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17. The hinge structure according to claim 14, wherein said braking-adjustable member has:

a frictional face contacting with said rotation shaft for providing braking force; and

braking-tightening planes horizontally extended from said frictional face and
15 with contact faces into which a leaf spring and a braking-adjustable member are inserted for adjusting braking force.

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18. The hinge structure according to claim 14, wherein said braking member is provided in said fixed plate.

19. The hinge structure according to claim 14, further comprising a non-circular rotation shaft-fixing end in at least one portion of said rotation shaft for rotating said pivotal plates or said fixed plate together with said rotation shaft.